

**What is claim d is:**

1. A parallelized CRC calculation method for a message, comprising the steps of:

- 5           preparing a generator matrix representing an LFSR  
              corresponding to a form for linearly mapping an  
              input vector to a remainder vector;  
              arranging the message inputted in the form to the  
              input vector;  
10           multiplying the generator matrix to the input vector  
              derived from the message; and  
              producing a CRC result.

2. A method according to claim 1, wherein the LFSR  
15 is configured for the message to be shifted thereinto from a MSB  
side.

3. A method according to claim 1, wherein the LFSR  
is configured for the message to be shifted thereinto from a LSB  
20 side.

4. A method according to claim 1, wherein the form  
is a byte-wise form.

25           5. A method according to claim 1, wherein the form

is a word-wise form.

6. A method according to claim 1, wherein the form is a doubleword-wise form.

5

7. A method according to claim 5, wherein the step of arranging the message to the input vector comprises padding the message with one or more dummies.

10

8. A method according to claim 5, further comprising initiating the LFSR with a specific value.

15

9. A method according to claim 8, further comprising identify a length type of the message and determining the specific value in accordance with the length type.

10. A method according to claim 5, further comprising comparing the CRC result with a specific pattern.

20

11. A method according to claim 10, further comprising identify a length type of the message and determining the specific pattern in accordance with the length type.

25

12. A method according to claim 6, wherein the step of arranging the message to the input vector comprises padding

the message with one or more dummies.

13. A method according to claim 6, further comprising initiating the LFSR with a specific value.

5

14. A method according to claim 13, further comprising identifying a length type of the message and determining the specific value in accordance with the length type.

10

15. A method according to claim 6, further comprising comparing the CRC result with a specific pattern.

15

16. A method according to claim 15, further comprising identifying a length type of the message and determining the specific pattern in accordance with the length type.

20

17. A method according to claim 1, wherein the step of multiplying the generator matrix to the input vector comprises performing an iteration procedure between the remainder vector and the input vector.

25

18. A parallelized CRC calculation system for verifying a message, comprising:

means for arranging the message inputted in a form to  
an input vector;  
a generator matrix representing an LFSR  
corresponding to the form for linearly mapping the  
5 input vector to a remainder vector; and  
means for producing a CRC result.

19. A system according to claim 18, wherein the  
LFSR is configured for the message to be shifted therein from a  
10 MSB side.

20. A system according to claim 18, wherein the  
LFSR is configured for the message to be shifted therein from a  
LSB side.

21. A system according to claim 18, wherein the form  
is a byte-wise form.

22. A system according to claim 18, wherein the form  
20 is a word-wise form.

23. A system according to claim 18, wherein the form  
is a doubleword-wise form.

24. A system according to claim 22, further

comprising one or more dummies for padding the message thereto.

5           25. A system according to claim 22, further comprising a specific value for initiating the LFSR therewith.

10           26. A system according to claim 25, further comprising means for identifying a length type of the message and determining the specific value in accordance with the length type.

15           27. A system according to claim 22, further comprising means for comparing the CRC result with a specific pattern.

20           28. A system according to claim 27, further comprising means for identifying a length type of the message and determining the specific pattern in accordance with the length type.

25           29. A system according to claim 23, further comprising one or more dummies for padding the message thereto.

30           30. A system according to claim 23, further

comprising a specific value for initiating the LFSR therewith.

5           31. A system according to claim 30, further comprising means for identifying a length type of the message and determining the specific value in accordance with the length type.

10           32. A system according to claim 23, further comprising means for comparing the CRC result with a specific pattern.

15           33. A system according to claim 32, further comprising means for identifying a length type of the message and determining the specific pattern in accordance with the length type.